



Rimkus Consulting Group, Inc.
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Atlanta, Georgia 30339
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(770) 438-2189 Facsimile

December 11, 2012

Ms. April Lyke
American Family Insurance Company
6000 American Parkway
Madison, Wisconsin 53783

Re: Claim No: 00475010651
Insured: Almassud Abdulmohsen
Subject: **Report of Findings**
RCG File No: 50802401

Dear Ms. Lyke:

On October 21, 2012, a two-vehicle collision reportedly occurred near the intersection of Dahlonaga Street and Pilgrim Road, in Cummings, Georgia. A 1995 Jeep Wrangler, Georgia license BET8383, driven by Almassud Abdulmohsen, was traveling southbound on Dahlonaga Street. A 2001 Mazda MPV, Georgia license 10948401, driven by Luisa Mezquital, was traveling northbound on Dahlonaga Street. The Jeep reportedly lost steering control, crossed the center lane divider line, and collided with the Mazda.

Rimkus Consulting Group was retained to inspect the steering components of the Jeep to determine whether the post-incident condition of the Jeep's steering components resulted from the collision or from an installation / manufacturing defect or deficiency. The Jeep was examined and photographed by Mark S. Hook, P.E. at the Insurance Auto Auction (IAA) facility located at 125 Old Highway 138, in Loganville, Georgia on December 6, 2012.

Conclusions

1. The conditions of the drag link and pitman arm on the Jeep were consistent with one end of the drag link having separated from the pitman arm as a result of an installation error.
2. The cotter pin utilized to prevent the crown nut from loosening was either never installed, or installed improperly allowing it to separate from the tie rod end and subsequently allowing the crown nut to loosen and separate from the tie rod end resulting in the tie rod separation from the pitman arm.

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3. The separation of the drag link from the pitman arm resulted in a loss of steering control by the driver of the Jeep and did not separate as a result of the collision.

Discussion

The narrative on the Georgia Uniform Motor Vehicle Accident Report for Incident Number 2012-10-1554, authored by J. Edwards with the Cumming Police Department, indicated that: "Driver of vehicle 1 (1995 Jeep Wrangler) was traveling south on Dahlonega Street and states that vehicle lost steering and crossed center lane striking vehicle 2." Ms. April Lyke reported that the driver of the Jeep claimed that the steering components were replaced approximately one week prior to the incident and that steering control was lost which caused the Jeep to veer into the oncoming traffic resulting in the subject collision.

A receipt from AutoAnything, dated July 14, 2012, for a Heavy Duty Tie Rod and Drag Link Kit (Part Number 18050.83) for a 1995 Jeep Wrangler was purchased by Almassud Abdulmohsen. A credit card receipt from Oh's Auto Center at 6704 Buford Highway, Suite G in Doraville, Georgia for an amount of \$100.00, dated October 13, 2012 was reportedly paid to have the tie rod and drag link kit (ordered from AutoAnything) installed on the Jeep.

On December 6, 2012, the 1995 Jeep Wrangler was inspected and photographed at the IAA facility in Loganville, Georgia (**Photograph 1**). The Jeep vehicle identification number (VIN) was 1J4FY19P7SP307355. The most severe impact damage was inflicted to the left-front portion of the Jeep. The left-front wheel was bent with the top of the tire and wheel leaning inward.

The right and left forward leaf spring brackets for the front axle were broken and separated from the right and left frame rails. The front track bar was separated from the bracket at the axle end of the track bar (**Photograph 2**).

The bolt and nut that secured the track bar to the axle-end bracket were missing and not available for examination. The left center link (drag link) end bracket at the left steering knuckle broke and separated from the left steering knuckle (**Photograph 3**). The center link left end remained attached to the broken portion of the steering knuckle with the crown nut and cotter pin still intact (**Photograph 4**). The right-center link end remained attached to the right steering knuckle with the crown nut and cotter pin still in place.

The right tie rod end (connected to the right end of the center link) remained attached to the center link with the crown nut and cotter pin in place. The left tie rod end separated from the pitman arm (**Photographs 5 and 6**). The crown nut and cotter pin for the left tie rod end were missing and were not available for inspection.

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The condition of the male threaded end of the left tie rod end was consistent with the crown nut loosening due to the absence of a cotter pin to prevent crown nut rotation. There were no damages to the left tie rod end or pitman arm that were caused by the subject collision. The conditions of the pitman arm and the left tie rod end are consistent with a separation that occurred prior to the collision as reported by the driver of the Jeep.

Our report was for the exclusive use of American Family Insurance Company and was not intended for any other use. Our report was based on information made available to us at this time. Should additional information become available, we reserve the right to determine the impact, if any, the new information may have on our opinions and conclusions and to revise our opinions and conclusions if necessary and warranted.

Thank you for allowing us to provide these services. If you have any questions or need additional assistance, please call.

Sincerely,
RIMKUS CONSULTING GROUP, INC.

*THE ORIGINAL OF THIS REPORT, SIGNED AND SEALED BY THE PROFESSIONAL
WHOSE NAME APPEARS ON THIS PAGE, IS RETAINED IN THE FILES OF RIMKUS
CONSULTING GROUP, INC.*


Mark S. Hook, P.E.
Georgia Reg. Eng. No. 30819
Principal Consultant




Joe R. Maseda
Vice President – Forensic / Industrial

Attachments: Photographs, CVs

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Photographs

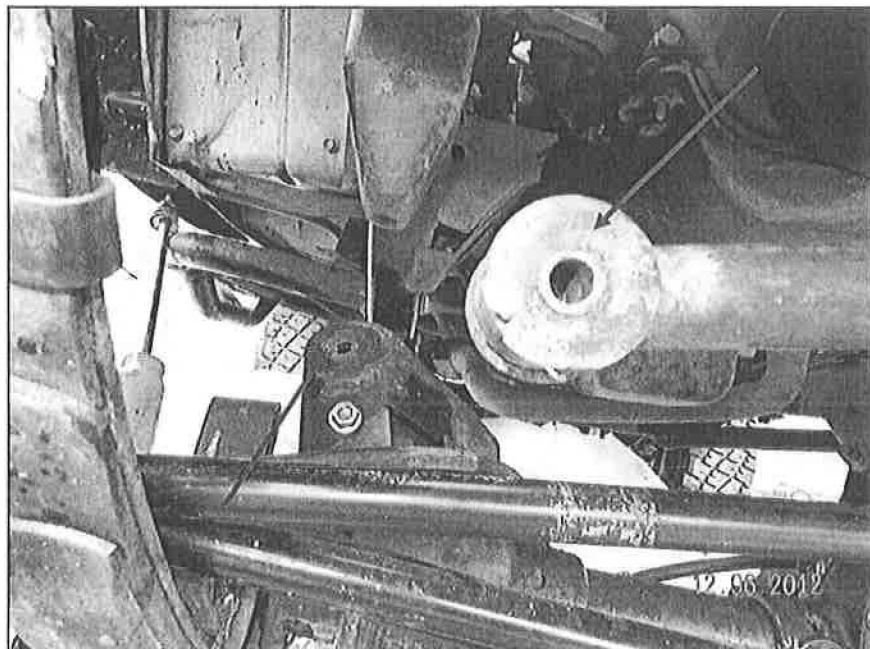
Photographs taken during our site visit that are not included in this report are retained in our files and are available to you upon request.

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Photograph 1
The 1995 Jeep Wrangler.



Photograph 2
The bracket (red arrow) and right end of the front track bar (blue arrow).



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Photograph 3

The broken left steering knuckle and left end of the center link (with crown nut and cotter pin in place).



Photograph 4

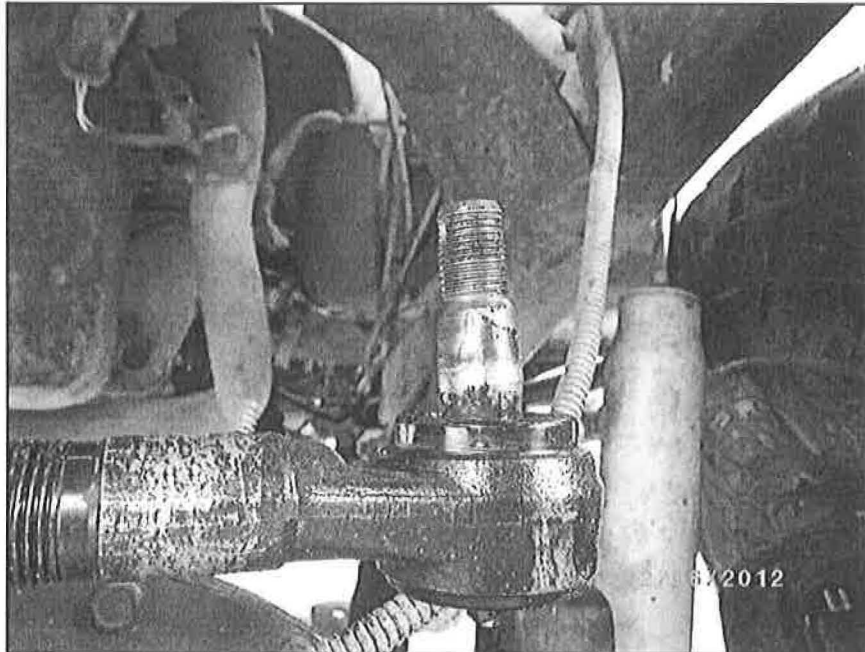
The crown nut and cotter pin on the left end of the center link.



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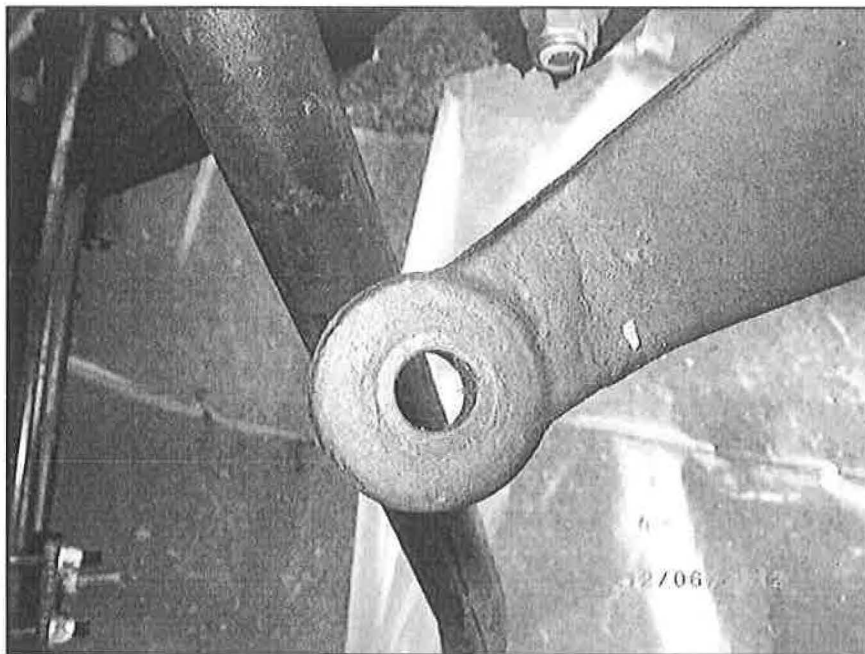
Photograph 5

The left tie rod end that separated from the pitman arm.



Photograph 6

The tie rod connection end of the pitman arm.



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CVs



**MARK S. HOOK, P.E.,
C.F.I., C.F.E.I., C.F.I.I., ACTAR #1406
PRINCIPAL CONSULTANT**

Mr. Hook is a Registered Professional Engineer in Georgia, Florida, Louisiana, Mississippi, Illinois, Tennessee, Kentucky and Alabama, a Certified Accident Reconstructionist (ACTAR #1406), an IAAI Certified Fire Investigator (CFI), Certified Fire and Explosion Investigator (CFEI); and a Certified Fire Investigation Instructor; (CFII). Mr. Hook has been the lead investigator for traffic accident reconstructions and the determination of the causes of vehicular mechanical failures. He has reconstructed accidents involving: commercial tractor/trailers, high-speed fatality collisions, daytime and nighttime accidents, car-motorcycle collisions and vehicle rollovers. He has worked on product liability cases involving vehicle systems (brakes, suspensions, steering, and airbags).

Mr. Hook has also been the lead investigator for fire and explosion origin and cause investigations of industrial, commercial, and residential fires; watercraft and vehicular fires. He is experienced at analysis of consumer product manufacturing, design, and installation related to fire and water damage causation, and determination of subrogation liability. He has completed attorney depositions and testified in state court.

EDUCATION AND PROFESSIONAL ASSOCIATIONS

The Georgia State Board of Registration for Engineer and Land Surveyor - Professional Engineer (Reg. No. PE030819)
 The Alabama Board of Licensure for Professional Engineers and Land Surveyors - Professional Engineer (Reg. No. 28054)
 The Kentucky State Board of Licensure for Professional Engineers and Land Surveyors - Professional Engineer (Reg. No. 24892)
 The Tennessee Department of Commerce and Insurance State Board of Architectural and Engineering Examiners - Professional Engineer (Reg. No. 111502)
 The Illinois Department of Financial and Professional Regulation - Professional Engineer (Reg. No. 062.060075)
 The Louisiana Professional Engineering and Land Surveying Board - Professional Engineer (Reg. No. 33306)
 The Mississippi Board of Licensure for Professional Engineers and Surveyors - Professional Engineer (Reg. No. 18040)
 The Florida Board of Professional Engineers - Professional Engineer (Reg. No. 66212)
 B.S.-Mechanical Engineering, Florida Atlantic University 1996
 Accreditation Commission for Traffic Accident Reconstruction (ACTAR) Certified Accident Reconstructionist (Reg. No. 1406)
 Crash Data Retrieval Specialist (CDR)
 The American Society of Mechanical Engineers (ASME)
 Society of Automotive Engineers (SAE)
 National Association of Fire Investigators (NAFI)
 Certified Fire Investigation Instructor (NAFI Registration # 5448-26531)
 Certified Fire and Explosion Investigator (NAFI Registration # 5448-26531)
 International Association of Arson Investigators (IAAI)
 Certified Fire Investigator (IAAI Registration # 08-081)
 Southeast Regional Director - Florida Chapter IAAI (1995-1998)
 Southern Loss Association (SLA)
 Georgia Fire Investigations Association (GFIA)
 National Association of Professional Accident Reconstruction Specialists (NAPARS)
 Society of Accident Reconstructionists (SOAR)



**JOE R. MASEDA, B.S.M.E., M.B.A., P.E., ACTAR #1035
EASTERN REGION FORENSIC DIVISION MANAGER**

Mr. Maseda is a 1977 graduate of the University of Florida with a bachelor's degree in mechanical engineering. He also has an M.B.A. from the Florida Institute of Technology. His professional background consists of over 20 years experience in power plant engineering, project management, and quality control and 10 years in failure analysis and accident reconstruction.

Mr. Maseda has reconstructed accidents involving: commercial vehicles (tractor-trailers), high-speed fatality collisions, car-bicycle and car-motorcycle accidents, daytime and nighttime pedestrian accidents, vehicle rollovers, and low-speed collisions for biomechanical analysis. He has also worked on product liability cases involving multiple types of vehicles and related systems (brakes, suspensions, steering, tires, seat belts and air bags). He has qualified and testified as an expert in Florida, Alabama, and North Carolina. Several evaluations were also completed with respect to OSHA standards as related to workplace working environments and equipment (ladders, scaffolding, lifts, and other machinery).

Mr. Maseda's areas of expertise also includes feasibility studies, economic analysis, engineering design and equipment selection, construction, project management, operations, maintenance and safety programs. Specific areas of experience include the utility power industry and the design and modification of mechanical plant systems such as pumps, heat exchangers, diesel generators, turbines, piping, piping supports, and analysis. He is also experienced in non-destructive examination and testing. He has worked on various projects related to mechanical design analysis, product design and safety analysis related to personal and commercial equipment such as chairs, plumbing systems, HVAC, water heaters and various sizes and types of rotating equipment, conveyor systems, process equipment, and automated packaging systems.

EDUCATION AND PROFESSIONAL ASSOCIATIONS

B.S. - Mechanical Engineering - University of Florida - 1977
M.B.A. - Florida Institute of Technology - 1987
ACTAR Accredited Accident Reconstructionist #1035
Registered Professional Engineer - Florida #34880, North Carolina #30040, Alabama # 28073-E, Georgia # 31584, South Carolina # 26281, Virginia # 004328
American Society of Mechanical Engineers
Society of Automotive Engineers
National Society of Professional Engineers

EMPLOYMENT HISTORY

1998 - Present	Rimkus Consulting Group, Inc.
1999 - 1999	Tampa Electric Co.
1980 - 1998	Florida Power Corporation
1977 - 1980	Westinghouse Electric Corporation